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Subadditivity inequalities in von Neumann algebras and characterization of tracial functionals

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Abstract

We examine under which assumptions on a positive normal functional φ on a von Neumann algebra, M and a Borel measurable function f: R + → R with f(0) = 0 the subadditivity inequality φ (f(A+B)) ≤ φ(f(A))+φ (f (B)) holds true for all positive operators A, B in M . A corresponding characterization of tracial functionals among positive normal functionals on a von Neumann algebra is presented. © Springer 2005.

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Keywords

Algebra of matrices, Functional calculus, Positive normal functional, Subadditivity inequality, Tracial functional, Von Neumann algebra